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2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

DEL SOLE, JOSEPH S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 06/09/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/944,587

Applicant(s)

SATO ET AL.

Examiner

Joseph S. Del Sole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 4(a), 4(b), 5 and 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. The description of these figures in the "Background of the Invention" section and at page 3, line 12 discusses these figures as conventional.

Specification

2. The disclosure is objected to because of the following informalities: **a)** at page 3, lines 14-15 "stiffened panel of Fig. 4(a)" should be changed to --stiffened panel of Fig. 4(a) by a conventional method--; **b)** at page 3, lines 17-18 "stiffener member and jigs;" should be changed to --stiffener member and jigs by a conventional method--; **c)** at page 3, line 20 "fall down while forming." should be changed to --fall down while forming by a conventional method.--; and **d)** at page 4, line 7 "placing an skin" should be changed to --placing a skin--. As discussed above regarding Figures 4(b), 5 and 6, the specification indicates that the embodiments drawn in these figures are conventional.

Appropriate correction is required.

Claim Objections

3. Claim 5 is objected to because of the following informalities: **a)** "placing an skin member" at lines 2-3 are grammatically incorrect and should be changed to --placing a skin member--. Appropriate correction is required.

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Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,523,246B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of US6,523,246B1 claims an auxiliary jig (line 7, "an elastic jig") used with a couple of jigs (line 12, "rigid jigs") for forming a structure made of fiber-reinforced composite (lines 1-2, "fiber reinforced composite structure"), wherein the auxiliary jig is provided between the jigs (lines 7-13, an elastic jig... engageable with the intersection between two adjacent first preforms and the second preform... and rigid jigs attachable to the first preforms and the second preform at locations other than the intersection"). Note that the following limitations of Applicant's claim 1: "for forming a structure made of fiber-reinforced composite by heating under pressure" and "to prevent said jigs from falling down and to restrain a resin contained in said fiber-reinforced

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composite from flowing out from an interspace between said jigs" are process limitations that do not serve to structurally define or limit the claim.

6. Claim 5 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 7 of U.S. Patent No. 6,523,246B1 in view of Cerezo Pancorbo et al (6,508,909).

As discussed above, claim 1 of US6,523,246B1 claims an auxiliary jig (line 7, "an elastic jig") used with a couple of jigs (line 12, "rigid jigs") for forming a structure made of fiber-reinforced composite (lines 1-2, "fiber reinforced composite structure"), wherein the auxiliary jig is provided between the jigs (lines 7-13, an elastic jig... engageable with the intersection between two adjacent first preforms and the second preform... and rigid jigs attachable to the first preforms and the second preform at locations other than the intersection"). Claim 7 of US6,523,246B1 claims placing a skin member and a preformed stiffener member each made of a fiber-reinforced composite on a forming tool (lines 3-8, the second fiber-reinforced members have skin portion and the first fiber-reinforced member is a preformed stiffener, and whatever surface these are placed upon to prevent them from falling through the air, even the earth itself, is the forming tool); disposing the couple of jigs on the preformed stiffener member (lines 14-15); and providing the auxiliary jig between the jigs (lines 8-13).

Claims 1 and 7 of US6,523,246B1 fail to claim the skin member and the stiffener member being integrally formed by heating under a pressure.

Cerezo Pancorbo et al teach the use of heating under pressure (col 2, lines 24-32) for the purpose of integrally forming composite materials to one another.

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It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of claims 1 and 7 of US6,523,246B1 by submitting the composite materials to heating under pressure as taught by Cerezo Pancorbo et al because it is a well known step used to bond composite materials.

7. Claim 5 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 7 of U.S. Patent No. 6,523,246B1 in view of Shiraishi et al (6,391,246).

As discussed above, claim 1 of US6,523,246B1 claims an auxiliary jig (line 7, "an elastic jig") used with a couple of jigs (line 12, "rigid jigs") for forming a structure made of fiber-reinforced composite (lines 1-2, "fiber reinforced composite structure"), wherein the auxiliary jig is provided between the jigs (lines 7-13, an elastic jig... engageable with the intersection between two adjacent first preforms and the second preform... and rigid jigs attachable to the first preforms and the second preform at locations other than the intersection"). Claim 7 of US6,523,246B1 claims placing a skin member and a preformed stiffener member each made of a fiber-reinforced composite on a forming tool (lines 3-8, the second fiber-reinforced members have skin portion and the first fiber-reinforced member is a preformed stiffener, and whatever surface these are placed upon to prevent them from falling through the air, even the earth itself, is the forming tool); disposing the couple of jigs on the preformed stiffener member (lines 14-15); and providing the auxiliary jig between the jigs (lines 8-13).

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Claims 1 and 7 of US6,523,246B1 fail to claim the skin member and the stiffener member being integrally formed by heating under a pressure.

Shiraishi et al teach the use of heating under pressure (col 2, lines 14-22) for the purpose of integrally forming composite materials to one another.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of claims 1 and 7 of US6,523,246B1 by submitting the composite materials to heating under pressure as taught by Shiraishi et al because it is a well known step used to bond composite materials.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Rosevear et al (6,478,922).

Rosevear et al teach an auxiliary jig (Fig 5, #38) used with a couple of jigs (Fig 5, #36 and #34) wherein the auxiliary jig is provided between the jigs (Fig 5); and a method having the step of placing a skin member and a preformed stiffener member each made of fiber-reinforced composite on a forming tool; disposing the couple of jigs

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on the preformed stiffener member; providing the auxiliary jig between the jigs; and integrally forming the skin member and the preformed stiffener member by heating under a pressure (col 7, line 22 - col 9, line 12).

Note that the following limitations of Applicant's claim 1: "for forming a structure made of fiber-reinforced composite by heating under pressure" and "to prevent said jigs from falling down and to restrain a resin contained in said fiber-reinforced composite from flowing out from an interspace between said jigs" are process limitations that do not serve to structurally define or limit the claim.

10. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Holsinger (6,245,275).

Holsinger teaches an auxiliary jig (Fig 4, #s 110, 120, 130, 140 and 210) used with a couple of jigs (Fig 4, #220a and 220b) wherein the auxiliary jig is provided between the jigs (Fig 4); wherein the auxiliary jig comprises a rigid portion (Fig 4, #110) and an elastic portion (Fig 4, #210); wherein the rigid portion is made of a stainless steel (Fig 4, #110 and col 4, lines 42-44); and the elastic portion is made of a silicone rubber (Fig 4, #210 and col 5, lines 22-25).

Note that the following limitations of Applicant's claim 1: "for forming a structure made of fiber-reinforced composite by heating under pressure" and "to prevent said jigs from falling down and to restrain a resin contained in said fiber-reinforced composite from flowing out from an interspace between said jigs" are process limitations that do not serve to structurally define or limit the claim.

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Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holsinger (6,245,275) in view of Cerezo Pancorbo et al (6,508,909).

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Holsinger teaches the invention as discussed above including the method placing a skin member and a preformed stiffener member each made of fiber-reinforced composite on a forming tool; disposing the couple of jigs on the preformed stiffener member; providing the auxiliary jig between the jigs; and integrally forming the skin member and the preformed stiffener member (col 4, lines 3-31 and col 5, lines 18-59).

Holsinger fails to teach using heating under presser to integrally form the members.

Cerezo Pancorbo et al teach the use of heating under pressure (col 2, lines 24-32) for the purpose of integrally forming composite materials to one another.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention Holsinger by submitting the composite materials to heating under pressure as taught by Cerezo Pancorbo et al because it is a well known step used to bond composite materials.

15. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holsinger (6,245,275) in view of Shiraishi et al (6,391,246).

Holsinger teaches the invention as discussed above including the method placing a skin member and a preformed stiffener member each made of fiber-reinforced composite on a forming tool; disposing the couple of jigs on the preformed stiffener member; providing the auxiliary jig between the jigs; and integrally forming the skin member and the preformed stiffener member (col 4, lines 3-31 and col 5, lines 18-59).

Holsinger fails to teach using heating under presser to integrally form the members.

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Shiraishi et al teach the use of heating under pressure (col 2, lines 14-22) for the purpose of integrally forming composite materials to one another.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Holsinger by submitting the composite materials to heating under pressure as taught by Shiraishi et al because it is a well known step used to bond composite materials.


Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph S. Del Sole whose telephone number is (703) 308-6295. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Wanda Walker, can be reached at (703) 308-0457. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for non-after finals and (703) 872-9311 for after finals.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Joseph S. Del Sole
J.S.D.
June 5, 2003


ROBERT DAVIS
PRIMARY EXAMINER
GROUP 1300-1722

6/6/03